Niveau(x) d'enseignement: 1 Numéro EDUQ : 8170782
Centre d'intérêt: 74

Adiv, Ellen.

A comparative evaluation of three French immersion programs : grades 10 and 11 / Ellen Adiv. -- [Montréal] : Commission des écoles protestantes du Grand Montréal, 1980.
vi, 29, [10] p. ; 28 cm.

"Paper presented at the fourth annual convention of CAIT". Résumés en français et en anglais au début du v. Bibliographie: p. 28-29. Notes bibliographiques: p. 26-27.

Cote Dewey: 440.7/A235c Cote LC: PC/2066

Descripteur(s): *Français (Langue) *Langue seconde *Classe d'immersion *Evaluation de l'apprentissage *Evaluation de programmes *Primaire (Niveau) *Secondaire (Niveau)

Le but de cette étude est d'évaluer la compétence linguistique en français des élèves de dixième et onzième années issus de trois programmes différents d'immersion française: 1. immersion primaire, 2. immersion de septième année, 3. immersion des septième et huitième années. Des groupes témoins anglais et français ont été inclus pour fins de comparaison.

La compétence linguistique en français a été évaluée en administrant les tests suivants: un test de lecture close, un test de compréhension de l'écrit, un test de compréhension auditive, un test de composition et un test de production orale. Au total, 313 étudiants de dixième et onzième années, y compris les groupes de contrôle, ont participé au processus d'évaluation. Tous provenaient d'écoles de la région de Montréal.

Les élèves des trois groupes d'immersion ont obtenu de meilleurs résultats que le groupe témoin anglais. Leurs résultats sont toutefois inférieurs à ceux du groupe témoin français dans tous les tests de production. Il semble que les différences entre les groupes soient plus prononcées quand on évalue la compétence communicative globale des élèves que lorsqu'on mesure des aspects spécifiques. Les étudiants qui suivent un programme d'immersion intensif (immersion primaire ou immersion des septième et huitième années) peuvent atteindre un niveau de compétence comparable à celui d'un francophone en compréhension mais non en élocution.

Type de document: r
Région(s) administrative(s): 063
Financement: Bénéficiaire - BEPGM
Organisme(s) source(s) - MEQ - DGDP
Programme(s) de subvention - DEL
Auteur de l'analyse: ar

ED 0 0 0 817082

A COMPARATIVE EVALUATION OF THREE FRENCH IMMERSION PROGRAMS: GRADES 10 AND 11

ELLEN ADIV

E D U Q 8170782

A COMPARATIVE EVALUATION OF THREE FRENCH IMMERSION PROGRAMS: GRADES 10 AND 11

Ellen Adiv

The Protestant School Board of Greater Montreal

Paper Presented at the Fourth Annual Convention of CAIT

November 1980

Acknowledgements

This research was made possible by a research grant to the Instructional Services Department, The Protestant School Board of Greater Montreal, from le Ministère de l'Education, Gouvernement du Québec.

We would like to thank the principals, French Department heads, teachers and students who participated in this research for their assistance. A special note of thanks is due to the French control school of la Commission scolaire Jérôme Le Royer for its most generous participation in the project. We are also indebted to the Bilingual Education Project of the Modern Language Centre, Ontario Institute for Studies in Education, for permission to use its test de lecture cloze and its test de compréhension auditive.

Résumé

Le but de cette étude était d'évaluer la compétence linguistique en français des élèves de 10ième et 11ième années de trois programmes différents d'immersion française: (1) immersion primaire, (2) immersion de 7ième année et (3) immersion des 7ième et 8ième années. Des groupes témoins anglais et français ont été inclus pour fins de comparaison.

La compétence linguistique en français a été évaluée en administrant les tests suivants: un test de lecture cloze, un test de compréhension de l'écrit, un test de compréhension auditive, un test de composition et un test de production orale. On est arrivé aux conclusions suivantes: (1) Les élèves des trois groupes d'immersion ont obtenu de meilleurs résultats que le groupe témoin anglais à l'exception de certains résultats se rapportant à l'évaluation grammaticale des compositions. (2) Les résultats de l'évaluation globale du test de composition du groupe d'immersion des 7ième et 8ième années étaient supérieurs à ceux du groupe d'immersion primaire en 10ième année. Autrement, il n'y avait pas de différence significative entre ces deux groupes. (3) En 11ième année, le groupe d'immersion primaire et le groupe d'immersion des 7ième et 8ième années ont obtenu des résultats supérieurs à ceux du groupe d'immersion de 7ième année à tous les tests excepté au test de production orale et à l'analyse grammaticale de la composition. (4) En 10ième année il y avait moins de différences

Summary

The purpose of this study was to assess the linguistic proficiency in French of grade 10 and grade 11 students from three different French immersion programs: (1) Early Immersion, (2) Grade 7 Immersion and (3) Grade 7/8 Immersion. English and French control groups were included for comparison purposes.

French liguistic proficiency was measured by the following test battery: a cloze reading test, a reading comprehension test, a listening comprehension test, a composition and an oral production test. The results indicate that: (1) The three immersion groups scored significantly higher than the English control group on all the tests except for certain measures pertaining to the linguistic accuracy in the compositions (2) The Grade 7/8 Immersion group was rated higher than the Early Immersion group on the global evaluation of the grade 10 compositions. Otherwise, there were no significant differences between these two groups. (3) In grade 11, the Early Immersion group and the Grade 7/8 Immersion group scored significantly higher than the Grade 7 Immersion group on all the tests except on the oral production test and on the grammatical component of the compositions. (4) There were fewer significant differences among the three immersion groups in grade 10 than in grade 11. (5) The three immersion groups scored significantly lower than the French control group on all the production tests. However, on several comprehension tests there were no significant differences between the French control group and

significatives entre les trois groupes d'immersion qu'en IIième année. (5) Les trois groupes d'immersion ont obtenu des résultats inférieurs à ceux du groupe témoin français dans tous les tests de production. Cependant, il n'y avait pas de différence significative entre le groupe témoin français et les groupes d'immersion primaire et des 7ième et 8ième années dans plusieurs tests de compréhension.

Les résultats nous amènent à conclure que les différences entre les groupes sont plus prononcées quand on évalue la compétence communicative globale des élèves que lorsqu'on mesure des aspects spécifiques de leur compétence linguistique. Les résultats démontrent aussi que les étudiants qui suivent un programme d'immersion intensif (immersion primaire ou immersion des 7ième et 8ième années) peuvent atteindre un niveau de compétence comparable à celui d'un francophone en compréhension, mais pas en production. Les résultats de cette étude sont discutés en fonction de l'approche d'enseignement de la langue seconde utilisée dans les programme d'immersion. De plus, il est proposé d'intégrer l'enseignement de la grammaire à l'enseignement des matières.

Summary

The purpose of this study was to assess the linguistic proficiency in French of grade 10 and grade 11 students from three different French immersion programs: (1) Early Immersion, (2) Grade 7 Immersion and (3) Grade 7/8 Immersion. English and French control groups were included for comparison purposes.

French liguistic proficiency was measured by the following test battery: a cloze reading test, a reading comprehension test, a listening comprehension test, a composition and an oral production test. The results indicate that: (1) The three immersion groups scored significantly higher than the English control group on all the tests except for certain measures pertaining to the linguistic accuracy in the compositions (2) The Grade 7/8 Immersion group was rated higher than the Early Immersion group on the global evaluation of the grade 10 compositions. Otherwise, there were no significant differences between these two groups. (3) In grade 11, the Early Immersion group and the Grade 7/8 Immersion group scored significantly higher than the Grade 7 Immersion group on all the tests except on the oral production test and on the grammatical component of the compositions. (4) There were fewer significant differences among the three immersion groups in grade 10 than in grade 11. (5) The three immersion groups scored significantly lower than the French control group on all the production tests. However, on several comprehension tests there were no significant differences between the French control group and

the Early Immersion and Grade 7/8 Immersion groups.

These findings lead to the conclusion that intergroup differences seem more pronounced when students have to demonstrate overall communicative competence than when they are evaluated on specific measures of linguistic proficiency. The results also show that students in the more intensive immersion programs (Early or Grade 7/8 Immersion) can develop native-like competence in comprehension, but do not seem able to reach this stage in production. The findings of this study are discussed in terms of the specific approach to second language teaching in immersion programs. It is proposed that language teaching be integrated into the teaching of the subject courses.

Table of Content Page

Introduction 1

The programs 2

Method 3

The samples 3

The test battery 4

Testing procedures 9

Results 10

Grade 10 10

Grade 11 16

Summary and Discussion 20

Reference Notes 26

References 28

Tables 30

Immersion programs are a form of bilingual education whereby children are taught all or most of their subjects in a language other than their mother tongue during some part of their schooling. Within the Canadian context this model usually refers to those schools which use French as the medium of instruction for native English speaking children (Lambert and Tucker, 1972). There are presently a number of different immersion programs operating across Canada. The basic differences between these programs are (1) the grade level at which the immersion bath occurs, (2) the intensity of the immersion program and (3) the duration of the immersion period (Edwards and Smith,1976; Genesee, 1979; Swain and Barik, 1976; Swain and Lapkin, 1977; etc.).

Three such programs have been instituted by the Protestant School Board of Greater Montreal: an early immersion program starting in kindergarten, a one-year late immersion program (grade 7 immersion) and a two-year late immersion program (grade 7/8 immersion) both commencing in grade 7, (for a brief description of these programs see below). Both early and late immersion programs have been extensively assessed since their inception (Genesee, Polich and Stanley, 1976; Genesee and Stefanovic, Note 1; Genesee, Morin and Allister, Note 2; Polich, Note 3; etc.) and a number of comparative evaluations of the three types of programs have been carried out (Adiv and Morcos, Note 4; Genesee and Leblanc, Note 5; Genesee and Morcos, Note 6). The most noteworthy findings at the end of grade 9 were: (1) the three immersion groups scored significantly higher than students receiving the regular 50 minutes a day of French language instruction. (2) The grade 7

Immersion group scored significantly lower than the Early Immersion and Grade 7/8 Immersion groups on several comprehension tests and on most measures of the written production tests. (3) There were no consistent differences between the Early Immersion and Grade 7/8 Immersion groups, although there was a tendency for the Grade 7/8 Immersion group to score higher than the Early Immersion group on certain production tests.

On the basis of these findings it was implied that the follow-up program may be insufficient to maintain the superiority in linguistic skills which the Early Immersion students had demonstrated in grades 7 and 8. It was furthermore suggested that the proficiency in French shown by the Grade 7/8 students may be attributable to their more recent intensive learning experience.

The current study presents a continuation of the above evaluations at the grade 10 and grade 11 levels. As in previous years, English and French control groups were included in the study.

The Programs

1) Early immersion. In this program the intensive immersion period lasts from kindergarten through grade 2. During those three years practically all instruction is in French. In grade 3, English language arts are introduced and from grade 4 through grade 6 the program becomes a bilingual one with 60% of all instruction given in English and only 40% in French.

2) One-year late immersion. In this program, the intensive immersion

period starts at the beginning of secondary school, i.e., in grade 7. During that year the entire curriculum, except for English language arts, is taught in French.

3) Two-year late immersion. This program also starts in grade 7. However, here the intensive immersion period lasts two years (grades 7 and 8). Once again the entire curriculum, except for English language arts, is taught in French, during this two-year period.

Each of these programs is followed by special post-immersion courses consisting,at each grade level, of one French language arts course and one other subject course, such as history or geography, taught in French. In grades 9 and 10 both courses are compulsory, whereas in grade 11 only one course is compulsory and the other is optional.

Method

The Samples

The following five groups of students in grades 10 and 11 were selected for the study: (1) Early Immersion, (2) Grade 7 Immersion, (3) Grade 7/8 Immersion, (4) English controls and (5) French controls. A summary of the actual sample sizes is presented in Table 1A, and a list of the schools from which these samples were selected is presented in Table 1B.

As in previous years, intact French language classes were used in the case of Grade 7 Immersion, and the two control groups. This was, however, not possible in the case of the Early Immersion and Grade 7/8 Immersion groups since the students from these programs attend

the same classes as certain Grade 7 Immersion students in grades 10 and 11. Here students were individually selected and then grouped according to program for testing purposes. Grade 7 Immersion students attending the same classes as the Early Immersion or Grade 7/8 Immersion students were excluded from the study.

In order to assess the equivalence of the groups in terms of mental ability, all the students were administered Raven's Standard Matrices test. This is a non-verbal test and is, therefore, particularly suitable for testing subjects who speak different native tongues.

The Test Battery

The following French language tests were administered: (1) test de lecture cloze, (2) test de compréhension de l'écrit, (3) test de compréhension auditive, (4) test de composition and (5) test de production orale. Each test is described briefly below.

1) Test de lecture cloze

The cloze test has been used extensively as a measurement of overall proficiency in second language achievement (Aitken 1977, Oller 1973, etc.). It consists of a passage from which every n-th word has been deleted. The student must complete the passage by supplying replacements for the deleted items. The deleted words include various parts of speech and, therefore, the learner has to use grammatical as well as contextual clues in order to supply the missing items. In the present test, which was developed by the Ontario Institute for Studies in Education (O.I.S.E.),

the students were asked to read a 412-word passage entitled "Le Canada vu par un Français". In order to introduce the student to the story, the two opening sentences of the passage were left intact and every seventh word thereafter was deleted. The passage contains a total of 41 deletions.

The test was scored in two different ways: exact word replacements and contextually acceptable replacements. The evaluation of the contextually acceptable replacements was based on the independent judgment of two French-speaking judges. The judges' ratings were combined to form a single score for each student.

2) Test de compréhension de l'écrit

This test was developed by the research department of the P.S.B.G.M. for the present evaluation. It consists of eight separate items: four newspaper articles, three literary passages and one short anecdote. The newspaper articles deal with a variety of topics, such as the risks of cigarette smoking, the use of fluorides, the energy crisis and a short advertisement. Each item is followed by a number of multiple-choice questions, 18 in total. The students' scores consisted of their total number of correct responses.

3) Test de compréhension auditive

This test was developed by the Ontario Institute for Studies in Education (revised edition, 1979). The test was designed specifically for immersion students and consists of 8 different passages: three news

items, two short advertisements, two dialogues and one dramatized narration. Each excerpt is followed by one, two or three multiple-choice questions, 20 in total. Both the excerpts and the questions were tape recorded and presented orally only. The students' scores consisted of their total number of correct responses.

4) Test de composition

The students were asked to write a composition of 75 to 100 words, based on one of 5 topics. Each composition was assigned a global rating based on the independent judgment of two raters, both French-speaking. A rating scale was established ranging from 5 (superior) to 1 (very poor). Both judges' ratings were then combined to form a single score for each student.

A sub-sample of the compositions was subsequently analyzed using several measures based on Hunt's (1970) T-unit. A T-unit has been defined as "a main clause plus all subordinate clauses and nonclausal structures attached to or embedded in it" (Hunt, 1970:4). Five quantitative measures pertaining to this analysis were used. A summary of the sub-sample sizes is presented in Table 3.

The T-unit analysis has been suggested as a measure of syntactic complexity in second language development (Larsen-Freeman and Strom, 1977) and has been used to assess oral and written speech samples of second language learners (Larsen-Freeman, 1978); Scott and Tucker, 1974). Two measures: (1) the percentage of error-free T-units and (2) the average length of error-free T-units proved to be the best indicators of different

levels of second language proficiency among a given population (Larsen-Freeman, 1978). In the present study five quantitative measures were used to evaluate the students' compositions: (1) the number of correct T-units, (2) the percentage of correct T-units, (3) the number of words per correct T-unit, (4) the number of orally correct T-units and (5) the percentage of orally correct T-units.

(1) The number of correct T-units

The number of correct T-units produced by each student was counted and a mean was then calculated for each of the five groups (Early Immersion, Grade 7 Immersion, etc.). according to the sub-sample sizes.

(2) The percentage of correct T-units

In order to account for differences attributable to composition length the number of correct T-units was calculated as a proportion of the total number of T-units produced by each student. Here again, a mean ratio was computed for each of the five groups according to sub-sample sizes.

(3) The number of correct words per T-unit

The number of words of all the error-free T-units was counted for each student and a mean for each of the five groups was then calculated according to the sub-sample size.

(4) The number of orally correct T-units

Previous studies using the T-units as a measure of linguistic proficiency pertained to the analysis of English speech samples. Since in French, written expression requires many grammatical distinctions which are not perceptible in oral expression, it was decided to use an additional

measure of comparison which would take into account only the students' knowledge of the oral grammar. The mean for each of the five groups was then calculated based on the number of orally correct T-units produced by each student in the sub-sample.

(5) The percentage of orally correct T-units

The percentage of orally correct T-units was calculated as in (3) above, i.e., the number of orally correct T-units was calculated as a proportion of the total number of T-units produced by each student and a mean was then computed for each of the five groups according to sub-sample sizes.

5) Test de production orale

A sub-sample of students from each language group was interviewed individually by a French-speaking interviewer. A summary of the sub-sample sizes is presented in Table 4.

The interviewer engaged each student in a conversation by asking him or her questions related to school, sports, his or her plans for the future, previous trips, and/or any topic of special interest to the student. The interview lasted 10 minutes. All interviews were tape recorded for later analysis.

Each student's speech sample was later evaluated by two raters, working independently, on five different dimensions: comprehension, pronunciation, grammar, vocabulary and communication. The communication dimension was intended to assess the student's willingness to speak French and his or her fluency while doing so. The ratings ranged from a maximum

of 5, indicating excellent or native-like skill, to a minimum of 1, indicating very poor skill. The raters were native French-speaking Canadians. They were not trained in linguistics. It has felt desirable to employ untrained native French speakers since in most day-to-day situations, second language speakers are evaluated by untrained people. The raters were trained to use the rating system. The evaluation of both raters were combined to form an average rating for each dimension. The ratings from the five dimensions were then combined to yield a single oral production score for each student.

Testing procedures

All testing was carried out in March and April of 1979. The group administered tests were given by a bilingual tester during French class time in those instances where intact French classes were used. In the case of the Early Immersion and Grade 7/8 Immersion students, permission was obtained to remove these students from their regular classes. In each school the students belonging to either of the two programs were then tested as one group. However, since Early Immersion and Grade 7/8 Immersion do not attend the same schools, students of these two programs were never tested together. In all cases the results of students with French-speaking parents were excluded from the analysis of the anglophone samples.

Results

Grade 10

The students' scores on the Standard Progressive Matrices test were analyzed first, using an analysis of variance procedure. The main variable was school group: Early Immersion, Grade 7 Immersion, Grade 7/8 Immersion, English controls and French controls. The results of this analysis revealed that there were statistically significant differences among the groups (Table 2). Since these differences could influence the results of the French language tests and thus confound the effect of the different language programs, all French language tests were analyzed using an analysis of covariance procedure. The results of the French language tests for grade 10 are summarized in Table 5. For each test the means shown in the table represent the means adjusted for group differences on the Raven Matrices test scores. The results of the analysis will be discussed below.

1) Test de lecture cloze

The results for the exact word replacements in the test de lecture cloze indicate that all the immersion groups (Early Immersion, $\overline{X}$ = 19.50; Grade 7 Immersion, $\overline{X}$ = 18.45; Grade 7/8 Immersion, $\overline{X}$ = 21.12) scored significantly higher than the English control group ($\overline{X}$ = 8.24). However, there were no significant differences among the three immersion groups. All the anglophone groups scored significantly lower than the French controls ($\overline{X}$ = 25.74).

The distribution of the contextually acceptable replacements is similar to that of the exact word replacements with regard to the two control groups, i.e., the French control group ($\bar{X}$ = 34.48) scored significantly higher than the immersion groups and the English control group ($\bar{X}$ = 19.93) scored significantly lower than all the other groups. Among the three immersion groups the Grade 7/8 Immersion students ($\bar{X}$ = 27.68) than the Grade 7 Immersion students ($\bar{X}$ = 23.80).

The comparison between the results of the exact word replacements and those of the contextually acceptable replacements shows that the rank order from most correct to fewest correct is the same on both measures, namely: (1) French controls, (2) Grade 7/8 Immersion, (3) Early Immersion, (4) Grade 7 Immersion, and (5) English controls.

2) Test de compréhension de l'écrit

The English control group ($\bar{X}$ = 7.38) scored significantly lower than all the other groups. Conversely, the French control group ($\bar{X}$ = 15.97) scored significantly higher than the four anglophone groups. Once again, there were no significant differences among the three immersion groups. Numerically, the rank order from highest to lowest is similar to that noted for the test de lecture cloze, namely: (1) French controls, (2) Grade 7/8 Immersion, (3) Early Immersion, (4) Grade 7 Immersion, and (5) English controls.

3) Test de compréhension auditive

The results on this test show that the Grade 7/8 Immersion

students ($\overline{X}$ = 14.26) and the Early Immersion students ($\overline{X}$ = 14.84) scored significantly higher than the Grade 7 Immersion students ($\overline{X}$ = 11.42). All three immersion groups scored again significantly higher than the English control students ($\overline{X}$ = 8.07), but significantly lower than the French control students ($\overline{X}$ = 18.07. It is noteworthy that the Early Immersion students scored numerically slightly above the Grade 7/8 Immersion students so that here the rank order from highest to lowest is (1) French controls, (2) Early Immersion, (3) Grade 7/8 Immersion, (4) Grade 7 Immersion, and (5) English controls.

4) Test de composition

As noted above, the compositions were evaluated on six measures: (1) global evaluation, (2) number of correct T-units, (3) percentage of correct T-units, (4) number of correct words per T-unit, (5) number of orally correct T-units and (6) percentage of orally correct T-units. In the case of (3) and (6) above, the raw ratio scores were converted using the transformation $y = \arcsin \sqrt{X}$. The results of the statistical analysis of these two measures are based on the transformed scores. For more meaningful interpretation of the results, the corresponding percentages are indicated in parentheses above the transformed scores in Table 5.

The results of the global evaluation show that the Grade 7/8 Immersion students ($\overline{X}$ = 3.49) were rated significantly higher than the Early Immersion students ($\overline{X}$ = 3.24) and the Grade 7 Immersion students ($\overline{X}$ = 3.04). There were no significant differences between the latter two groups. As on all previous measures, the three immersion groups were rated

significantly higher than the English controls ($\overline{X}$ = 2.17), but lower than the French controls ($\overline{X}$ = 3.99).

The results pertaining to the number of correct T-units and to the percentage of correct T-units show that the French control group ($\overline{X}$ = 7.23) produced significantly more correct T-units than the four anglophone groups. Among the latter there were no significant differences (Early Immersion, $\overline{X}$ = 3.55); Grade 7 Immersion, $\overline{X}$ = 3.27; Grade 7/8 Immersion, $\overline{X}$ = 4.64; English controls, $\overline{X}$ = 2.12). The failure to find significant differences between the immersion groups and the English control group is surprising since the latter group scored significantly lower on all the previous tests. It must, however, be remembered that in this method of analysis the T-units is counted incorrect irrespective of the severity of an error or the number of errors within the T-unit.

It is of interest to note that when the number of correct T-units is examined as a proportion of the total number of T-units produced, the Grade 7/8 Immersion students (36%) produced a significantly greater percentage of correct T-units than the English control students (14%). There were no significant differences between the percentage of correct T-units produced by the latter group and the other two immersion groups. However, numerically the rank order of the different groups is the same as those noted for the test de lecture cloze and the test de compréhension de l'écrit, namely: French controls (62%), Grade 7/8 Immersion (36%), Early Immersion (24%), Grade 7 Immersion (22%), and English controls (14%).

The results for the number of words per correct T-units show that the French controls ($\overline{X}$ = 12.28) produced significantly longer correct

T-units than the three immersion groups (Early Immersion, $\bar{X}$ = 7.43); Grade 7 Immersion $\bar{X}$ = 8.38; Grade 7/8 Immersion, $\bar{X}$ = 9.48) who, in turn, produced significantly more words per correct T-unit than the English control students ($\bar{X}$ = 4.38). There were no significant differences among the Grade 7/8 Immersion, Early Immersion and Grade 7 Immersion groups.

It has been argued above that, in the case of French, it may be of interest to look at the production of correct T-units based on the oral grammar only. The results pertaining to the number of orally correct T-units and the percentage of orally correct T-units show that the rank orders for these two measures are similar to those noted when no distinction was made between oral and written grammar.

When the percentage of orally correct T-units are compared to those where the distinction between oral and written grammatical features has not been maintained, it becomes evident that all the percentages, except those of the English control group, are higher when only orally correct structures are considered. This difference is as high for the French control group as for the Grade 7/8 Immersion group (totally correct = 70% of orally correct T-units) and for both of these groups the difference between orally correct and totally correct T-units is more pronounced than for the other two immersion groups (Early Immersion, totally correct = 77% of orally correct, and Grade 7 Immersion = 76%).

To summarize, the composition results of the French control group were significantly higher than those of the four anglophone groups

on all the measures of evaluation. Among the latter the English controls scored significantly lower than the Grade 7/8 group and all of these same measures of evaluation. The English controls also produced significantly shorter correct T-units than the Early Immersion and the Grade 7 Immersion groups. However, among the three immersion groups there were no significant differences, except on the global evaluation where the Grade 7/8 Immersion group was rated significantly higher than the other two immersion groups. Numerically, the results for four of the six measures used in the evaluation of the composition (global evaluation number of correct T-units percentage of correct T-units and percentage of orally correct T-units) show the same rank order as noted for the test de lecture cloze and the test de compréhension de l'écrit.

5) Test de production orale

The results for this test indicate that the three immersion groups (Early Immersion, $\overline{X}$ = 4.14; Grade 7 Immersion, $\overline{X}$ = 3.86; Grade 7/8 Immersion $\overline{X}$ = 4.27) were rated significantly higher than the English control group ($\overline{X}$ = 2.06). However, the immersion groups were also rated significantly lower than the French control group ($\overline{X}$ = 5.06). Among the three immersion groups there were no significant differences and numerically the rank order is the same as that noted repeatedly above, namely (1) Grade 7/8 Immersion, (2) Early Immersion and (3) Grade 7 Immersion.

Results

Grade 11

As in the case of grade 10, the Standard Progressive Matrices scores of the students in Grade 11 were analyzed first, using an analysis of variance procedure. The main variable was school group: Early Immersion, Grade 7 Immersion, Grade 7/8 Immersion, English controls and French controls. The results of this analysis revealed that there were statistically significant differences among the groups (Table 2). Hence, here again, all the French language tests were analyzed using an analysis of covariance procedure. The results of the analysis are summarized in Table 6. Here, too, the means shown in the table represent the means adjusted for group differences on the Raven Matrices test scores.

1) Test de lecture cloze

The results for the exact word replacements in the test de lecture cloze indicate that the English control groups ($\overline{X}$ = 11.65) scored significantly lower than the three immersion groups. Among the latter, the Grade 7/8 Immersion students ($\overline{X}$ = 22.98) and the Early Immersion students ($\overline{X}$ = 21.52) received significantly higher scores than the Grade 7 Immersion students ($\overline{X}$ = 17.67). Finally, all four anglophone groups scored significantly lower than the French controls ($\overline{X}$ = 25.69).

The distribution of the contextually acceptable replacements is similar to that of the exact word replacements. Here again, the

Grade 7/8 Immersion group ($\overline{X}$ = 29.71) and the Early Immersion group ($\overline{X}$ = 27.61) scored significantly higher than the Grade 7 Immersion group ($\overline{X}$ = 22.57) and all three immersion groups scored significantly higher than the English control group ($\overline{X}$ = 14.89), but significantly lower than the French control group ($\overline{X}$ = 35.08). On both measures the numerical rank order from most correct scores to fewest correct scores is the following: (1) French controls, (2) Grade 7/8 Immersion, (3) Early Immersion, (4) Grade 7 Immersion and (5) English controls.

2) Test de compréhension de l'écrit

The English control group ($\overline{X}$ = 9.50) scored significantly lower on the test de compréhension de l'écrit than all the other groups. The Grade 7 Immersion students ($\overline{X}$ = 12.60) obtained significantly lower scores than the French controls ($\overline{X}$ = 14.65), the Grade 7/8 Immersion students ($\overline{X}$ = 15.12) and the Early Immersion students ($\overline{X}$ = 14.30). There were no significant differences among the latter three groups on this test. In fact, the Grade 7/8 Immersion group scored numerically slightly above the French control group.

3) Test de compréhension auditive

The results from the test de compréhension auditive show that the French controls ($\overline{X}$ = 17.72) scored significantly higher than the Grade 7/8 Immersion students ($\overline{X}$ = 15.32), who, in turn, scored significantly higher than the Grade 7 Immersion students ($\overline{X}$ = 11.59), and the English controls ($\overline{X}$ = 11.52). The latter two groups also scored significantly

lower than the Early Immersion Group ($\bar{X}$ = 16.62). There were no other significant differences.

4) Test de composition

The six measures used for the evaluation of the compositions were: (1) global evaluation, (2) number of correct T-units, (3) percentage of correct T-units, (4) number of words per correct T-unit, (5) number of orally correct T-units and (6) percentage of orally correct T-units. The statistical analyses for (3) and (6) above are again based on the transformed scores of the results. However, as before, the results will be discussed in terms of the correcponding percentages which are indicated in brackets above the transformed scores in Table 6.

The results of the global evaluation show that there were significant differences among all the groups, except between the Grade 7/8 Immersion and Early Immersion groups. The rank order of the ratings from highest to lowest were as follows: French controls ($\bar{X}$ = 4.11), Early Immersion ($\bar{X}$ = 3.51), Grade 7/8 Immersion ($\bar{X}$ = 3.48), grade 7 Immersion ($\bar{X}$ = 3.20) and English controls ($\bar{X}$ = 2.50).

The results pertaining to the number of correct T-units show that the French control group ($\bar{X}$ = 9.02) produced significantly more such units than the Early Immersion group ($\bar{X}$ = 3.77), the Grade 7 Immersion group ($\bar{X}$ = 4.80), and the English controls ($\bar{X}$ = 3.53). There were no other significant differences. However, then the percentages of correct T-units are examined, the following additional differences emerge: the percentage of correct T-units produced by the French control group (64%) was significantly higher than that produced by the Grade 7/8 Immersion group

(43%) The latter, in turn, was significantly higher than the percentage of correct T-units produced by the English controls (17%).

The results for the number of words per correct T-unit indicate that the English control group ($\overline{X}$ = 5.55) produced significantly shorter T-units than the Early Immersion group ($\overline{X}$ = 9.23), the Grade 7/8 Immersion group ($\overline{X}$ = 9.78) and the French control group ($\overline{X}$ = 11.06). The latter group also produced significantly more words per correct T-unit than the Grade 7 Immersion group ($\overline{X}$ = 7.22). There were no other significant differences.

With regard to the number of orally correct T-units the following results were noted: The French controls ($\overline{X}$ = 12.25) produced significantly more such units than the four anglophone groups. Moreover, the Grade 7/8 Immersion students ($\overline{X}$ = 8.24) produced more orally correct T-units than the English controls ($\overline{X}$ =3.77). There were no other significant differences. However, when the percentages of orally correct T-units are examined, the following additional differences emerge: the percentages of orally correct T-units produced by the Grade 7/8 Immersion students (55%) and the Early Immersion students (42%) were significantly higher than those produced by the English controls (20%). The Grade 7/8 Immersion students also produced a higher percentage of orally correct T-units than the Grade 7 Immersion students (31%).

The comparison between the percentages of orally correct T-units and those where the distinction between oral and written grammatical features has not been maintained shows that for all the groups the

percentage is higher when only orally correct T-units are considered. The rank order for the five groups is however the same in both cases namely (1) French controls, (2) Grade 7/8, (3) Early Immersion, (4) Grade 7 Immersion, and (5) English controls.

To summarize, the composition results of the three immersion groups were significantly lower than those of the French control group on all measures of evaluation except the number of words per correct T-unit. Here there were no significant differences between the French controls and the Grade 7/8 Immersion and Early Immersion groups. Among the anglophone groups the English controls were rated significantly lower than the three immersion groups on the global evaluation. The English controls also scored lower than the Grade 7/8 Immersion group on all the measures pertaining to the T-units, except for the number of correct T-units. Moreover, the English controls scored significantly lower than the Early Immersion students on two measures, namely the number of words per correct T-unit and the percentage of orally correct T-units. Among the three immersion groups the most noteworthy pattern that emerges from the composition evaluation is the absence of significant differences between the Grade 7/8 Immersion group and the Early Immersion group.

5) Test de production orale

The results for the test de production orale indicate that the three immersion groups (Early Immersion, $\overline{X} = 4.21$, Grade 7 Immersion; $\overline{X} = 4.01$; Grade 7/8 Immersion, $\overline{X} = 4.46$) were rated significantly higher

than the English control group ($\bar{X}$ = 3.33). However, the Immersion groups were also rated significantly lower than the French control groups ($\bar{X}$ = 5.00). Among the three immersion groups there were no significant differences. Numerically the rank order from highest to lowest was: (1) French controls, (2) Grade 7/8 Immersion, (3) Early Immersion, (4) Grade 7 Immersion and (5) English controls.

Summary and discussion

The grade 10 test results can be summarized as follows:

1) The three immersion groups scored significantly higher than the English controls on all the tests except on certain measures pertaining to the T-unit.
2) The Early Immersion group scored significantly higher than the Grade 7 Immersion group on the test de compréhension auditive. Otherwise, there were no significant differences between these two groups.
3) The Grade 7/8 Immersion group scored significantly higher than the Grade 7 Immersion group on the test de lecture cloze (contextually acceptable replacements), the test de compréhension auditive and the global evaluation of the composition. On the latter test, the Grade 7/8 Immersion group also scored significantly higher than the Early Immersion group. There were no other significant differences between the Grade 7/8 Immersion and the Early Immersion groups.
4) The comparison with the French control group shows that the latter

scored significantly higher than the five immersion groups on all the tests.

The grade 11 test results can be summarized as follows:

1) The three immersion groups scored significantly higher than the English control group on most measures of evaluation. However, there were a number of measures pertaining to the T-unit analysis on which there were no significant differences between the English controls and the Early Immersion and Grade 7 Immersion groups. Moreover, there was no significant difference between the Grade 7 Immersion group and the English control group on the test de compréhension auditive.
2) The Early Immersion group and Grade 7/8 Immersion group scored significantly higher than the Grade 7 Immersion group on the test de lecture cloze (exact and contextually acceptable word replacements), the test de compréhension de l'écrit, the test de compréhension auditive and on the global evaluation of the composition. Moreover, the Grade 7/8 Immersion group obtained significantly higher scores than the Grade 7 Immersion group on the test de production orale and on the proportion of orally correct T-units.
3) There were no significant differences between the Early Immersion group and the Grade 7/8 Immersion group on any of the test results.
4) The comparison with the French control group shows that the latter scored significantly higher than the Grade 7 Immersion group on all the tests. On the other hand, there were no significant differences between the French controls and the Early Immersion group on the test

de compréhension de l'écrit, the test de compréhension auditive and the number of correct words per T-unit. There were also no significant differences between the French controls and the Grade 7/8 Immersion group on these same measures except for the test de compréhension auditive where the Grade 7/8 Immersion group scored significantly lower than the French control group.

The major pattern that emerges from these results is that there are practically no significant difference between the Early Immersion group and the Grade 7/8 Immersion group. However, when the numerical values of the test results are considered, the Grade 7/8 Immersion students rank almost consistently above the Early Immersion students. Moreover, there are more significant differences between the Grade 7/8 Immersion group and the Grade 7 Immersion group than there are between the latter and the Grade 7 Immersion group. These findings are in agreement with those noted previously in grade 9 (Adiv and Morcos, Note 4).

A noteworthy finding is revealed in the comparison between the grade 10 and grade 11 results. Here the number of significant differences between the Grade 7 Immersion group and the other two immersion groups, is greater in grade 11 than in grade 10.

This divergence in performance between these groups in grade 11 is surprising, especially since previous studies (Genesee and Morcos, Note 3; Genesee, Note 7) had reported that by comparison to grades 7 and 8, differences between the various immersion groups were decreasing in grade 9. In interpreting these findings, it must be borne in mind that the studies referred to, as well as the present one, are cross-

sectional so that the population tested differs from year to year. Nevertheless, grades 9 and 10 exhibit similar patterns, whereas grade 11 does not. One possible reason for the improved results of the Early Immersion and Grade 7/8 Immersion groups may be that the grade 11 students are more concerned about their performance because they are more keenly aware that the marks they obtain during that year influence their admission into higher institutions of learning. While this factor should be equally motivating to all students, it may find greater expression in the performance of the Early Immersion and Grade 7/8 Immersion students since these students' cumulative experience in French is greater than that of students in the one-year Grade 7 Immersion program.

The finding that the Grade 7/8 Immersion group and especially the Early Immersion group in Grade 11 did not score significantly lower than the French controls on several measures pertaining to the evaluation of comprehension seems to indicate that the students in these immersion groups have developed native-like competence in the receptive skills in French. By comparison, the development of native-like competence in the productive skills seems to lag since here the French controls scored consistently higher than the immersion groups. Moreover, the failure to find significant differences among the three immersion groups on most of the T-unit analyses suggests that differences between the immersion groups seem to be more pronounced on measures which evaluate overall communicative competence than on measures pertaining to the evaluation of specific areas on linguistic knowledge such as grammar and vocabulary. In a similar vein, the absence of significant differences between the immersion groups on

the test de production orale may be attributable to the fact that the results for this test were obtained from the ratings of specific language skills such as the ones mentioned above. This pattern of language development is characteristic of informal learning environments and may be attributable, to some extent, to the basic approach to second language learning in immersion programs. Adiv (Note 8) has suggested that one of the problems of the immersion method may be that the linguistic content of the subject courses taken in French is beyond the immersion students' competence in that language. Hence, class activities may focus heavily on the comprehension of course material and provide insufficient opportunities for the improvement of productive skills, particularly those skills related to grammatical competence.

It is also possible that immersion students fail to develop greater proficiency in the productive skills because, as Genesee (Note 7) suggests, even the language oriented courses may bear no systematic relation to the students' actual competence in the daily usage of the language. Thus, while it is assumed that the student will apply what he has learned in the language class to communicative situations in other subject classes, it is doubtful whether such transfer actually occurs between courses that function as discrete entities. Adiv (Note 8) has suggested that, in immersion programs, a more integrated approach to second language teaching may be beneficial for the improvement of production skills in French. In particular, it was proposed that grammar classes and other subject classes be coordinated, so that the grammatical structures taught in the former can be consolidated through practice in the latter.

This approach is based on two key concepts. The first pertains to the systematic sequencing of linguistic material and the second pertains to the exploitation of the linguistic content of subject courses. Thus rather than introduce new grammatical structures within an independent context, it is proposed that the content of a given subject class provide the necessary framework for the grammar lesson. Moreover, the sequencing of linguistic structures should not necessarily be based on a prescribed grammar course, but rather on the specific needs of the different immersion groups. It may be the case that the language courses themselves do not provide sufficiently differentiated levels of language instruction to stimulate maximal linguistic development for each type of immersion group. This factor may be especially influential in grades 10 and 11 where, as pointed out in the beginning of this study, students of the different immersion groups attend the same language courses.

Immersion teachers will undoubtedly frown upon an approach which is more in keeping with regular second language pedagogy than with immersion teaching practices. On the other hand, this method may provide better opportunities for immersion students to become not only communicatively fluent but also linguistically competent in French.

Reference notes

1. Genesee, F., and Stefanovic, B. Evaluation of the 1975-1976 grade 6 French Immersion class. Instructional Services Department. The Protestant School Board of Greater Montreal, 1976.

2. Genesee, F., Morin, S., and Allister, T. Evaluation of the 1973-1974 grade 7 French Immersion class. A report submitted to the Protestant School Board of Greater Montreal, October 1974.

3. Polich, E. Report on the evaluation of the lower elementary French immersion program through grade 3 (1971-73). A report submitted to the Protestant School Board of Greater Montreal.

4. Adiv, E. and Morcos, C. A comparison of three alternative French immersion programs at the grade 9 level. Instructional Services Department, The Protestant School Board of Greater Montreal. November, 1979.

5. Genesee, F. and Leblanc, M. A comparative evaluation of three alternative French immersion programs: grades 7 and 8. Instructional Services Department. The Protestant School Board of Greater Montreal. January, 1978.

6. Genesee, F. and Morcos, C. A comparison of three alternative French immersion programs: grades 8 and 9. Instructional Services Department, The Protestant School Board of Greater Montreal, December, 1978.

7. Genesee, F. Scholastic effects of French immersion: An overview after ten years. McGill University, 1979.

8. Adiv, E. An analysis of second language performance in an early French immersion program: grades 3, 4 and 5. Instructional Services Department. The Protestant School Board of Greater Montreal. September, 1980.

References

Aitken, K.G. Using cloze procedure as an overall language proficiency test. T E S O L Quarterly, 1977, 11, 59-67.

Edwards, H. P. and Smyth, F. Alternatives to early immersion programs for the acquisition of French as a second language. The Canadian Modern Language Review, 1976, 32, 524-533.

Genesee, F. Les programmes d'immersion en français du Bureau des Ecoles Protestantes du Grand Montréal. Québec: les presses du service des impressions en régie du Bureau de l'Editeur Officiel du Québec, 1979.

Genesee, F., Polich, E., and Stanley, M.H. An experimental French immersion program at the secondary school level, 1969-74. The Canadian Modern Language Review, 1976.

Hunt, K. W. Syntactic maturity in school children and adults. Monographs of the Society for Research in Child Development, 1970, 53, 1.

Larsen-Freeman, D. An ESL index of development T E S O l Quarterly, 1978, 12, 439-448.

Larsen-Freeman, D. and Strom, V. The construction of a second language acquisition index of development. Language Learning, 1977, 27, 123-124.

Oller, J. W. Discrete point tests versus integrative skills. In J. W. Oller and J. C. Richards (Eds.), Focus on The Learner: Pragmatic perspective for the language teacher. Rowley, Mass.: Newbury House, 1973.

Scott, M. S. and Tucker, R. G. Error analysis and English language strategies of Arab students. Language Learning, 1974, 24, 69-97.

Swain, M. and Barik, H. C. Five years of primary French immersion. Annual Reports of the Bilingual Education Project to the Carleton Board of Education and the Ottawa Board of Education up to 1975. Toronto: Ministry of Education, Ontario, 1976.

Swain, M. and Lapkin, S. Beginning French in grade 8. Orbit. 1977, 39, 10-13.

Table 1

(A) Sample Sizes

	Grade 10	Grade 11
Early Immersion	40	27
Grade 7 Immersion	38	37
Grade 7/8 Immersion	40	23
English Control	26	32
French Control	21	29

(B) The Schools

Grade 10

Early Immersion	Grade 7 Immersion	Grade 7/8 Immersion	English Control	French Control
Wagar	Westhill	Rosemount	Riverdale	Jérôme-Le Royer
Westmount		S.W.C.		

Grade 11

Westmount	Westhill	Rosemount	Riverdale	Jérôme-Le Royer
	Riverdale			

Table 2

Summary of Results from the
Progressive Matrices Test[a]

	Grade 10		Grade 11	
	Mean	Range	Mean	Range
Early Immersion	52.4	32-59	54.7	44-60
Grade 7 Immersion	52.2	39-60	54.0	44-60
Grade 7/8 Immersion	50.5	32-58	54.3	48-59
English Control	46.3	30-56	51.0	40-60
French Control	52.4	44-59	54.0	48-58
F ratio:	7.06***		5.36***	
df:	4,160		4,143	

***$p < .001$

[a]Maximum score: 60

Table 3

Sample Sizes for the Test de Composition

	Grade 10	Grade 11
Early Immersion	21	16
Grade 7 Immersion	16	27
Grade 7/8 Immersion	25	25
English Control	21	31
French Control	11	24

Table 4

Sample Sizes for the Test de Production Orale

	Grade 10	Grade 11
Early Immersion	15	16
Grade 7 Immersion	19	20
Grade 7/8 Immersion	19	19
English Control	14	15
French Control	10	10

Table 5

Summary of Grade 10 Test Results[a]

	French Control	Grade 7/8 Immersion	Early Immersion	Grade 7 Immersion	English Control	F ratio	df
(1) Test de lecture cloze (41)[b]							
Total correct							
exact	25.75	21.12	19.50	18.45	8.24	34.44***	4,136
acceptable	34.48	27.68	25.67	23.80	10.93	40.23***	4,133
(2) Test de compréhension de l'écrit (18)	15.97	13.70	13.62	12.21	7.38	27.14***	4,145
(3) Test de compréhension auditive (20)	18.07	14.26	14.84	11.42	8.07	34.72***	4,111

*** $p < .001$

[a] Mean scores joined by a solid line differ significantly from one another
Mean scores joined by a broken line do not differ significantly from one another

[b] Maximum possible scores are indicated in parentheses

Table 5 (cont'd)

Summary of Grade 10 Test Results

	French Control	Grade 7/8 Immersion	Early Immersion	Grade 7 Immersion	English Control	F ratio	df
(4) Test de composition							
Global evaluation(5)	3.99	3.49	3.24	3.04	2.17	44.63***	4,121
Number of correct T-units	7.23	4.64	3.55	3.27	2.12	5.25***	4,88
Percentage of correct T-units[a]	(62) 1.80	(36) 1.29	(24) 1.03	(22) 0.97	(14) 0.78	7.18***	4,88
Number of words per correct T-unit	12.28	9.48	7.43	8.38	4.38	7.71***	4,88
Number of orally correct T-units	10.24	5.80	4.42	4.36	2.17	10.00***	4,88
Percentage of orally correct T-units[a]	(89) 2.46	(47) 1.50	(32) 1.21	(29) 1.13	(15) 0.79	17.72***	4,88

*** $p < .001$

[a] Statistical analysis based on transformed scores. The percent values shown in parentheses have been derived from these transformed scores.

Table 5 (cont'd)

Summary of Grade 10 Test Results

	French Control	Grade 7/8 Immersion	Early Immersion	Grade 7 Immersion	English Control	F ratio	df
(5) Test de production orale (5)[a]	5.06	4.27	4.14	3.86	2.06	42.61	4,68

*** $p < .001$

[a] Some results shown are greater than the maximum possible value due to adjustment for group differences on the Raven Matrices test scores.

Table 6

Summary of Grade 11 Test Results [a]

	French Control	Grade 7/8 Immersion	Early Immersion	Grade 7 Immersion	English Control	F ratio	df
(1) Test de lecture cloze (41)[b]							
Total correct							
exact	25.69	22.98	21.52	17.67	11.65	41.54***	4,136
acceptable	35.08	29.71	27.61	22.52	14.89	58.52***	4,136
(2) Test de compréhension de l'écrit (18)	14.65	15.12	14.30	12.60	9.50	14.90***	4,133
(3) Test de compréhension auditive (20)	17.72	15.32	16.62	11.49	11.52	25.59***	4,119

*** $p < .001$

[a] Mean scores joined by a solid line differ significantly from one another
Mean scores joined by a broken line do not differ significantly from one another

[b] Maximum possible scores are indicated in parentheses

Table 6 (cont'd)

Summary of Grade 11 Test Results

	French Control	Grade 7/8 Immersion	Early Immersion	Grade 7 Immersion	English Control	F ratio	df
(4) Test de composition							
Global evaluation (5)	4.11	3.48	3.51	3.20	2.50	42.88***	4,126
Number of correct T-units	9.02	6.77	3.77	4.80	3.53	5.27***	4,117
Percentage of correct T-units[a]	(64) 1.85	(43) 1.43	(55) 1.17	(24) 1.03	(17) 0.85	13.42***	4,117
Number of words per correct T-unit	11.06	9.78	9.23	7.22	5.55	7.76***	4,117
Number of orally correct T-units	12.25	8.24	4.87	5.45	3.77	10.70***	4,117
Percentage of orally correct T-units[a]	(90) 2.50	(55) 1.66	(42) 1.42	(31) 1.18	(20) 0.93	36.35***	4,117

*** $p < .001$

[a] Statistical analysis based on transformed scores. The percent values shown in parentheses have been derived from these transformed scores.

Table 6 (cont'd)

Summary of Grade 10 Test Results

	French Control	Grade 7/8 Immersion	Early Immersion	Grade 7 Immersion	English Control	F ratio	df
(5) Test de production orale (5)	5.00	4.46	4.21	4.01	3.33	16.62	4,74

*** $p < .001$